STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

IN THE MATTER OF	) ORDER No. 97-043
MOLLER RANCH ASSOCIATES, L.P.	)
DISCHARGE OF SILT TO	) ADMINISTRATIVE
GOLD CREEK & TEHAN CANYON CREEK	) CIVIL LIABILITY
CITY OF PLEASANTON	)
ALAMEDA COUNTY	)

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereafter Regional Board) finds, with respect to Moller Ranch Associates, L.P., (hereafter Discharger), that:

1. The Discharger violated provisions of law for which the Regional Board may impose civil liability under Section 13385 of the State Water Code.

2. A hearing on this matter was held before the Regional Board on March 19, 1997, Second Floor, BART Headquarters Building, located at 800 Madison Street in Oakland, California. The Discharger, or the Discharger's representative(s), had the opportunity to be heard and to contest the allegations in Amended Complaint Order No. 97-004 which recommended the imposition of civil liability by the Regional Board.

3. At the hearing, the Regional Board considered whether to affirm, reject or modify the proposed administrative liability, or whether to refer the matter to the Attorney General for recovery of judicial civil liability.

4. On August 20, 1992, the State Water Resources Control Board adopted Order No. 92-08-DWQ, implementing National Pollution Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharg of Storm Water Runoff Associated with Construction Activity (hereafter the General Permit). The project's WDID No. is 2-01S305022.

5. On July 14, 1995, Moller Ranch Associates, L.P, filed with the State Board a N Intent (NOI) to comply with the provisions of the General Permit, for the Mo Project. The total size of the site is 198 acres, however approximately 60 a disturbed for the purpose of development and subject to provisions of the Permit. The site is located at 5710 Foothill Road, west of Highway I-6 Pleasanton, Alameda County.

6. Surface water drainage from the site is tributary to Gold Creek, T Arroyo De La Laguna, Alameda Creek, and subsequently to San Waters of the State. The existing beneficial uses of the water include municipal, agricultural, and industrial supply, recrea enjoyment, and aquatic wildlife habitat.

7. Provisions of the General Permit state, in part, the following:
   - [I] A.1 Discharges of material other than storm water, which are not otherwise regulated by a NPDES permit, to a separate storm sewer system or waters of the nation are prohibited.
   - [II] A.2 Storm water discharge shall not cause or threaten to cause pollution, contamination, or nuisance.
   - [III] C.2 All Dischargers must develop and implement a Storm Water Pollution Prevention Plan in accordance with Section A: Storm Water Pollution Prevention Plan (SWPPP).

8. Section A of the General Permit defines the contents of a SWPPP to be a document which identifies, constructs, and implements storm water pollution prevention measures (control practices) to reduce pollutants in storm water discharges from the construction site. Item No. 6 of Section A - Erosion and Sediment Control, prescribes practices to revegetate disturbed areas as soon as feasible after grading, and requires consideration of seeding, mulching, and stabilization practices. At a minimum the discharger must implement these practices on all areas during the rainy season.

9. The San Francisco Bay Basin Water Quality Control Plan (the Basin Plan), prohibits the discharge of silt, sand, clay, or other earthen materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity or discoloration in surface waters or to unreasonably affect or threaten to affect beneficial uses, (Table 4-1, Item No. 9).

10. The discharger has violated waste discharge requirements contained in General Permit 92-08 DWQ (NPDES CAS000002), and discharge prohibitions of the San Francisco Bay Basin Plan.

11. The SWPPP for the site inadequately prescribed measures such that pollutant levels of the discharged storm water were not reduced and in some instances were increased. Had appropriate measures been adequately described in the SWPPP and implemented , significant reductions of pollutants could have been achieved. Measures, such as treatment of slopes with grass seed (Hydroseed), were implemented late in the rainy season (applied in November, 1995). Alternative erosion control measures were not considered. The discharge from the last basin of the site, at the lower area, caused significant erosion down-grade in the ravine leading to Tehan Creek. Straw bales and silt fences proved to be ineffective because large portions of the site remained prone to erosion. This resulted in excessive amounts of sediment laden water leaving the site.

12. Inspections performed October 20, 1995, and afterwards, indicate that the SWPPP had not been fully implemented. Simple Best Management Practices (BMPs), had not been implemented or were circumvented. As a result, unacceptable discharges of large volumes of sediment laden storm water had occurred during each rain event. As

described in the staff report, storm water discharges occurred from this site which caused pollution to Waters of the State.

13. Although the site's Stormwater Pollution Prevention Plan (SWPPP), did not specifically identify erosion protection of the site's slopes, failure to protect those slopes is a violation of the Permit. Permit condition, Section A, Item No. 6 requires the discharger to revegetate disturbed areas as soon as feasible after grading. At a minimum the discharger must implement these practices on all areas during the rainy season. Much of the site's graded areas remained unprotected from erosion; the application of hydroseed in late October or November does not satisfy the Permit's conditions.

14. That failure to implement appropriate erosion control measures constitutes a violation of General Storm Water Permit No. 92-08 DWQ which resulted in a discharge of silty water to Waters of the State.

15. The discharger violated Waste Discharge Requirements, (Section 13385(a.2), California Water Code) by failing to comply with the provisions and discharge prohibitions of the State's General Permit regulating discharges of stormwater runoff associated with construction activity and violated this Board's Basin Plan (Section 13385(a.4), California Water Code), by discharging sediment in prohibited quantities.

16. The extent of damage due to sediment discharged from the site to adjacent drainage ways, tributary to Tehan Creek and Gold Creek is difficult to assess; however, silt deposition in creeks, rivers and lakes can cause significant environmental damage, (Staff Report - Supplement B). It is clear that discharges from this site have contributed to significant degradation of the above mentioned creeks. This Order for Administrative Civil Liability considered those discharges and the discharger's non-compliance with General Storm Water Permit No. 92-08 DWQ.

17. Based on staff observations and information received during the inspections, and information received from the California Department of Fish & Game Warden Joe Powell, it was apparent that the discharger failed to implement adequate erosion control measures and failed to adequately monitor and repair the erosion control measures present at the site.

18. The lack of adequate erosion control measures resulted in uncontrolled discharges of earthen materials into Waters of the State. Only limited attempts were made to install and maintain erosion control measures on the upper area of the site during the months of October, November, and December of 1995 and in January, 1996.

19. The maximum civil liability which could be imposed by the Regional Board in this matter is as follows:
    a. Pursuant to Section 13385(c.1), $10,000 per day of discharge;
    b. Pursuant to Section 13385(c.2), as much as $10 per gallon for the volume discharged greater than 1,000 gallons.

20. Based on days of discharge and estimated flow, the maximum administrative civil liability which could be imposed by the Regional Board in this matter, under Section 13385 of the Water Code, exceeds $1,478,000 for eleven days of sediment laden discharge which includes an estimated 136,000 gallons over those eleven days.

21. In determining the amount of administrative civil liability, the Regional Board considered the following factors described in the attached staff report: "the nature, circumstances, extent, and gravity of the violation, and, with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require." [Water Code Section 13385(e)].

22. The Executive Officer of the Regional Board proposed that the administrative civil liability imposed by this Board be in the amount of $54,800 which includes $4,800 in staff costs. The discharger had implemented inadequate erosion control measures late in the 1995/96 rainy season violating the site's Waste Discharge Requirements and Basin Plan Prohibitions. The amount above reflects that although no Clean and Abatement Order had been issued to correct the deficiencies, verbal warnings however, had been given to the discharger indicating that violations of the General Permit could result in this enforcement action.

23. The discharger has requested that up to $50,000 of the liability be suspended provided that a proposal for a supplemental environmental project, acceptable to the Executive Officer, is submitted by May 19, 1997.

24. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et. seq.), in accordance with Section 15321(a)(2), Title 14, of the California Code of Regulations.

ORDER No. 97-043
ADMINISTRATIVE CIVIL LIABILITY
MOLLER RANCH ASSOCIATES, L.P.
ALAMEDA COUNTY

IT IS HEREBY ORDERED that Moller Ranch Associates, L.P., pay $54,800 , to the Cleanup and Abatement Fund for the violations described above. Payment is due on April 2, 1997. Payment should be submitted to the Regional Water Quality Control Board, San Francisco Bay Region, at 2101 Webster Street, Suite 500, Oakland, CA 94612 and made payable to the State Cleanup and Abatement Fund.

This Board agrees to suspend up to $50,000 of the above amount pending accomplishment of a supplemental environmental project. The discharger must submit to this Board a proposal for such a project, acceptable to the Executive Officer, by May 19, 1997. If the proposed project is not acceptable, the discharger has 30 days from receipt of notice of rejection of that submittal, to either submit a new or revised proposal or submit payment for the full amount suspended. The accepted project must be completed by May 19, 1999. Any money not used by that date must be submitted to this Board and made payable to the State Cleanup and Abatement Fund or directed toward an alternative project acceptable to the Executive Officer.

I, Loretta K. Barsamian, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 19, 1997.

3.19.97
Date

Loretta K. Barsamian
Executive Officer

Environmental Protection Agency
Region 9 (WTR-5)
75 Hawthorne Street
San Francisco, CA 94105
Permit No. CA0037681 (Major)
NPDES Requirements

California Regional Water
Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612
Order No. 97-044
Waste Discharge Requirements

FOR

CITY AND COUNTY OF SAN FRANCISCO'S OCEANSIDE WATER POLLUTION CONTROL PLANT AND THE WESTSIDE WET WEATHER COMBINED SEWER SYSTEM

Table of Contents

Findings:

The U.S. Environmental Protection Agency, Region 9 (hereinafter called "EPA") and the California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called "the Board"), find that:

1. **Permit Coverage:** The City and County of San Francisco (hereinafter called the "Discharger" or "Permittee," or "the City") is the owner and operator of the Oceanside Water Pollution Control Plant (Oceanside WPCP), a wastewater collection and disposal system which serves the Oceanside of San Francisco. This NPDES permit is considered a "major" permit. It covers all discharges from the Discharger's Westside wastewater system to the Pacific Ocean. These flows originate from the western one third of the City (Richmond and Sunset Districts). The Southwest Ocean Outfall (SWOO) carries most of the Westside waste water and discharges to federal waters. Federal waters are those which lie beyond the three mile limit of the territorial sea. The wet weather combined sewer discharge points are at the shoreline and are in State waters. The City collects the wastewater in a combined sewer system. Domestic sewage, industrial wastewater, and storm water runoff are all collected in the same pipes (combined sewer). This is similar to most older cities in the U.S. Newer cities have a dual system: one set of pipes for domestic sewage and industrial wastes and another set for storm water.

2. **Oceanside WPCP:** At Oceanside WPCP, flows up to the design capacity of 43 MGD receive secondary treatment via a pure oxygen activated sludge process (average dry - weather flow is 18 MGD). During wet weather, the Discharger provides additional treatment capacity for flows in excess of 43 MGD up to 65 MGD. These excess wet weather flows receive primary treatment using clarifiers prior to discharge into the ocean outfall. Primary and secondary sludges are blended and then processed via anaerobic digestion. Prior to blending and digestion, the secondary sludge is thickened using gravity thickeners. The digested sludge receives chemical conditioning prior to dewatering through belt presses. The dewatered sludge is then hauled to a landfill or to reuse sites. The design capacity of the solids handling facility is 24 MGD.

3. **West Side Wet Weather Facilities:** During wet weather, the City collects storm water runoff mixed with domestic and industrial waste water in Storage/Transports. The Westside system (See Figure A) includes three large Storage/Transports: Westside Transport, Richmond Transport, and Lake Merced Transport. The Westside Storage/Transport is a 2.5-mile long box-like structure which is located beneath the Great Highway. The combined storage capacity in all three transports (including 2.2 MG of sewers) is 69.5 million gallons. During larger storms, when the Oceanside WPCP reaches maximum treatment capacity, storm flows that cannot be stored in the Westside transport system will pass over a weir and under a baffle into a second box, called the decant structure; settleable solids and floatables remain in the first box, and are flushed to

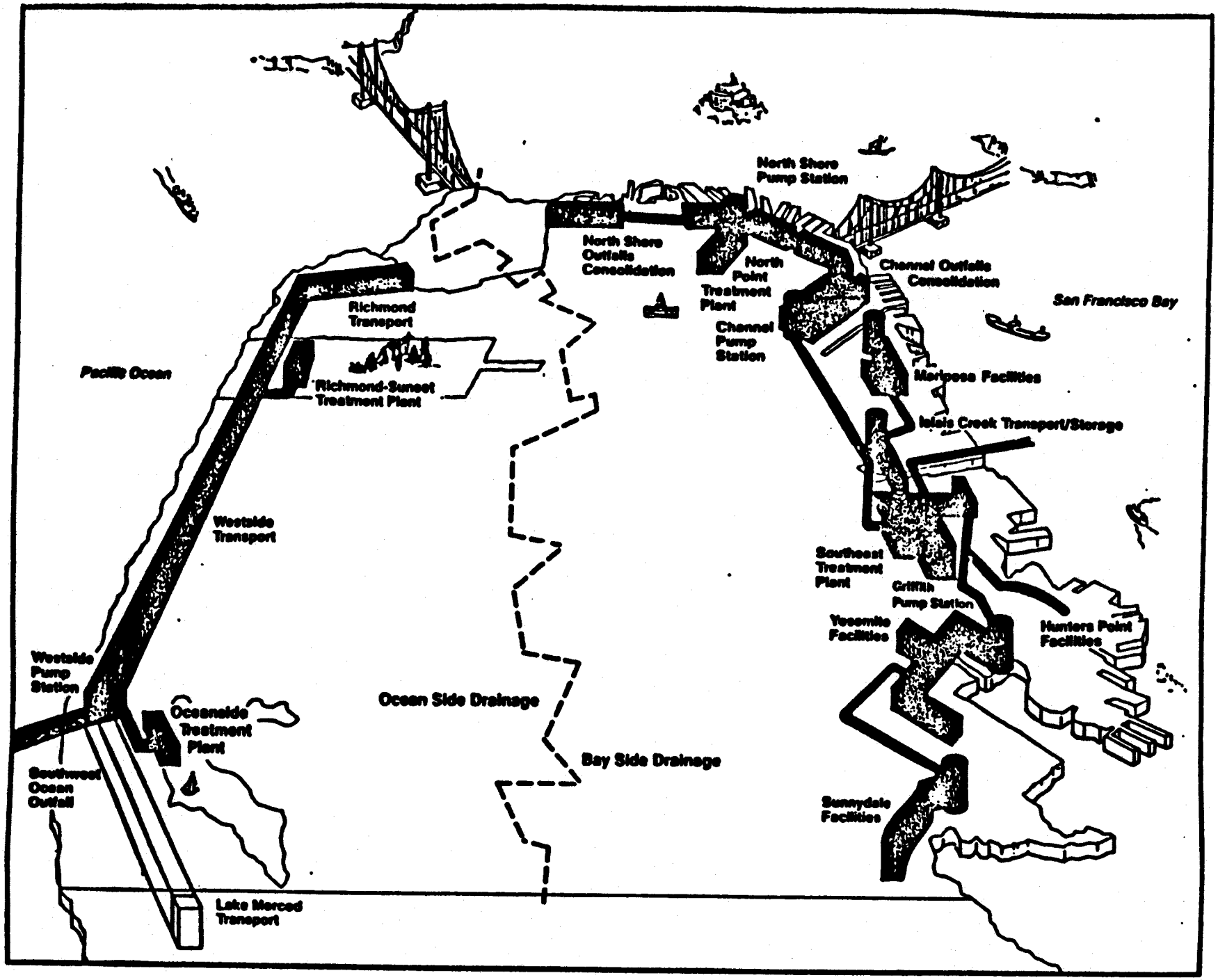

Figure A Overview of San Francisco's Water Pollution Control Facilities

the treatment plant after the storm subsides. The excess effluent is "decanted" from the East box to the West box and then pumped via the Westside Pump Station to the SWOO. Flows exceeding the discharge capacity of the SWOO is discharged to the shoreline. This decanted effluent has received flow-through treatment which includes screening (at pump stations), removal of settleable solid and floatable pollutants.

4. **Definition of a Combined Sewer Overflow:** EPA's 1994 Combined Sewer Overflow (CSO) Policy defines Combined Sewer Overflows as the following: "A CSO is the discharge from a Combined Sewer System (CSS) at a point prior to the POTW Treatment Plant." A combined sewer system is previously defined as a "wastewater collection system owned by a State or municipality...which conveys sanitary wastewater and storm water through a single-pipe system to a POTW. (FR, Vol 59, No. 75/Tuesday, April 19, 1994, 18689, I.A). According to this definition, discharges described in the Finding above are considered "CSOs." Since the term "CSO" has often been applied to untreated discharges from a CSS, these discharges will be referred to as "treated CSOs" because of the flow-through treatment they receive.

5. **Wet Weather CSO Points:** During the wet weather, the Discharger presently discharges domestic and industrial wastewater mixed with storm water runoff, all containing pollutants, into Pacific Ocean, a water of the State and the United States through any of eight (7) wet weather Combined Sewer Overflow Points in the Westside sewerage zone: The wet weather Combined Sewer Overflow Points are list in Table I.

Table I: Westside Sewerage Zone Wet Weather CSO Points

Structure No.	Name	Outfall Size (feet)	Weir Elevation	Discharge Location
1.	Lake Merced	10x11.3	+7.7 MLLW	Ft. Funston Beach
2.	Vicente	2@ 5 dia	+17.7 MLLW	Ocean Beach
3.	Lincoln Way	3@ 6 dia	+17.7 MLLW	Ocean Beach
4.	Mile Rock	9x11	-1.3 MLLW	Mile Rock Bluff
5.	Sea Cliff PS1	1.5 dia	+66.7 MLLW	Phelan Beach
6.	Sea Cliff	6 dia	+17.3 MLLW	Baker Beach
7.	Sea Cliff PS2	1 dia	+46.2 MLLW	Baker Beach

6. **Combination of Permits:** The combined sewer overflows through any of eight CSS overflow points in the Oceanside Sewerage zone which is presently governed by NPDES Permit No. CA0038415. Because the Westside wastewater control system was planned, constructed, and is operated as an integrated system, it is most practical to prepare a single NPDES Permit and Fact Sheet for the whole system. Previously, a Federal/State joint National Pollutant Discharge Elimination System (NPDES) Permit (referred to by the Board as "Order") was issued for the SWOO discharge and a separate State permit/order was issued for the shoreline combined sewer discharges. EPA and the Board have combined the waste discharge requirements of Permit No. CA 0038415 into this permit.

Wastewater from the east side of the City is discharged to the Bay and is covered by separate permits.

7. **Level of treatment of wet weather flows:** All wet weather flows including storm water runoff are captured and receive a specified level of treatment depending on the size of the storm. All solids which settle out in the storage/transports are flushed to the treatment plant after the rainstorm subsides. In summary, during dry weather all wastewater receives secondary level treatment. During wet weather the combined sewer flows receive the following level of treatment on an annual basis:

   - Approximately 50% of the combined flows receives secondary treatment and is discharged to the Ocean Outfall.

   - Approximately 37% of the combined flow receives "flow-through" treatment and is discharged to the Ocean Outfall.

   - Approximately 13% of the combined flow receives "flow-through" treatment and is discharged to the shoreline.

   (Prior to the construction program over 80% of these flows were discharged untreated at the shoreline as combined sewer overflows.)

8. **Facility design to achieve 8 overflows per year:** Treated CSOs to the shoreline will occur only when the storm flow exceeds the combined storage capacity of the storage/transports and the capacity of the pumping facilities to transfer flows to the Oceanside WPCP or the SWOO. The Westside combined sewage control facilities have been designed so that on average these shoreline discharges will occur 8 times per year. The Board has defined an overflow as the shoreline discharge from the combined sewer collection system. To be considered a discrete "overflow event," the overflow must be separated by six hours in time from any other overflow. (This criterion was established by SWRCB Order 79-16). The long-term average of 8 overflows per year was established as the Westside design goal by the Board after an evaluation of costs and benefits. This overflow frequency was the criterion used to size the transport/storage and treatment facilities. The combined sewer flows discharged during these 8 occurrences will have received flow-through treatment for the removal of settleable solids and floatables.

Historical Data for Overflows at Controlled and Uncontrolled Portions of the Westside

Calendar year	Untreated overflows (uncontrolled areas)	Controlled overflows (facilities in place)	Annual Rainfall (West-side)	Comments
				Westside Transport on-line (Ocean Beach)
89	36	2	14.2	
90	29	0	9.8	
91	36	0	17.6	
92	47	4	16.5	
93	50	7	21.9	Lake Merced Transport on-line
94	59	2	16	
95	64	6	25.5	
96	-	-	-	All facilities on-line (fall)
97	***0***	***8***	-	*Expected performance based on design*

Note: The Westside Transport was operational in 1987 and therefore Ocean Beach has been in the controlled overflow category for the years listed above. The Richmond Storage/Transport was the last facility to come on-line (1996).

9. **Reassessment of treated overflows:** All facilities became operational in early 1997. In the period following the establishment of the original criteria, several proposals have been made to further reduce overflows. Consistent with the Section IV.B.2.e. of the CSO Policy, the Permittee will complete a preliminary engineering assessment of a range of options for additional overflow reductions. These options include methods for reducing hydraulic loading on the combined sewer system and methods for increasing the decant rate (Westside Storage/Transport flows discharged direct to the Outfall) in order to reduce the number of overflows. The study will identify options, assess feasibility, and estimate costs.

10. **Beach Postings and Bacteria Monitoring:** When these shoreline overflows occur, the beach is posted and the shoreline waters are sampled for total coliform bacteria until these levels drop below the Basin Plan objective for contact recreation. The beach is posted for

a minimum of three days. Prior sampling indicates that elevated bacteria levels tend be located only in the vicinity of the outfalls and tend to decrease rapidly, typically within 15 to 40 hours. Furthermore, since beach postings are based on total coliform counts, the Permittee is only required to monitor for total coliform. EPA is currently involved in a study to determine the best pathogen indicators for protection of beach uses and may revise this requirement based on these results.

11. **1974 Master Plan:** The highest priority of the Westside Wet Weather Control Facilities is to eliminate all untreated shoreline discharges and to minimize the frequency of treated discharges that do occur. This is because the discharges contribute to elevated bacteria levels in nearshore waters which must be subsequently posted for up to three days following the discharges. Public use of nearshore waters is one of the beneficial uses protected by this permit. In response to objectives set forth by the City's 1974 Master Plan Environmental Impact Statement and Report, the City has substantially completed the wastewater projects needed to control combined sewer overflows and to reduce water quality impact from the combined sewer system. Construction projects are expected to be completed in 1997. Consequently, the City's program qualifies for the CSO Control Policy's classification under Section I.C. as being substantially complete and exempt from the planning and construction requirements. The following table summarizes the current status of Master Plan projects.

Master Plan Projects
Cost Estimates and Expenditures

Current Projects	Estimated Costs	% Completed in August 1996
Bayside Core (completed)	$ 409,000,000	100
Westside Core (completed)	$ 345,000,000	100
Oceanside Plant	$ 254,000,000	100
Southeast Facilities	$ 376,000,000	86
Southeast Facilities - Future	$7,500,000	0
Richmond & Lake Merced Transport	$ 80,586,000	97
TOTAL MASTER PLAN PROJECTS	$1,411,000,000	

Source: City and County of San Francisco Department of Public Works.

12. **Regulatory Status of a CSO:** An opinion by the U.S. EPA's Office of General Counsel has classified facilities that treat combined sewer overflows as point sources subject to section 301(b)(1)(A), 301(b)(1)(C), and 301(b)(2) of the Clean Water Act (hereinafter

referred to as "the Act". Thus, they are not Publicly Owned Treatment Works (POTWs) and are not subject to the secondary treatment regulations of 40 CFR 133. This opinion is supported by subsequent case law (646 F.2d 568(1980)); Montgomery Environmental Coalition v. Costle.

13. **Technology-Based Requirements for a CSO:** The Clean Water Act (CWA) established the NPDES permit program to regulate all point source discharges to the nation's waters. All Dischargers must comply with three sets of requirements: (1) technology-based minimum requirements that apply to all Dischargers of a specified class or (2) more stringent effluent limits, if necessary, to meet local Water Quality Standards (WQSs). (CWA, Section 301 (b)(1)(C)) and (3) for marine discharges, the Ocean Discharge Criteria (CWA section 403 (c)). The wet weather combined sewer flows have a more complicated regulatory status. On San Francisco's Westside, there are two types of treated combined sewer overflows (CSOs): the flows decanted from the Westside Storage/transport direct to the SWOO and the flows decanted from the storage/Transports to the shoreline combined sewer overflow (CSO) points. Both these Treated CSOs must meet the following technology-based requirement of the Act as follows:

   a. **Best Practicable Control Technology currently Available (BPT)**: The basic control level that all discharges (other than POTWs) must attain. BPT was the initial technology-based control level required by the CWA. This treatment level is determined first and then used in calculating the following two control levels, which may be more stringent.
   b. **Best Conventional Pollutant Control Technology (BCT)**: Effluent limitations applied to suspended solids, BOD, oil and grease, pH, and coliform bacteria.
   c. **Best Available Technology economically Achievable (BAT)**:Treatment applied to toxic pollutants and other non-toxic, non-conventional pollutants such as floatables.

14. **BPJ Determination**: EPA establishes some technology-based requirements by issuing industry-wide effluent guidelines. For CSOs, no effluent guidelines have been promulgated for BPT, BCT, or BAT. The permit writer must therefore use Best Professional Judgement (BPJ) to determine the level of treatment that BPT, BCT, and BAT represent. EPA performed a BPJ analysis (see Fact Sheet : Attachment 2). The Board concurs with the findings of the BPJ analysis. These findings are as follows:

   a. The completed Westside facilities will provide effluent reduction at cost in excess of that which would be required by BPT/BCT/BAT; and
   b. No additional treatment facilities can be justified on a BPT/BCT/BAT cost basis; and
   c. By including requirements in the NPDES permit to ensure the continued implementation of the nine minimum control technologies outlined in the CSO

Policy, EPA and the Board have established the technology-based requirements mandated by the Clean Water Act and the State Water Code.

15. **Combined Sewer Overflow Policy:** On April 11, 1994, EPA adopted the CSO Control Policy (50 FR 18688). This Policy establishes a consistent national approach for controlling wet weather discharges from combined sewer systems to the Nation's waters through the National Pollutant Discharge Elimination System (NPDES) permit program. Combined Sewer overflows are the discharge from the Combined Sewer System at a point prior to the POTW Treatment Plant (see Federal Register, Vol 59 No. 75, Tuesday, April 19, 1994 Section I.A.). The Discharger is served almost 100% by combined sewers and thus is directly affected by the Policy. EPA and Board staff have reviewed this Policy together with documentation submitted by the Discharger and have made the following determinations:

    a. The Discharger has demonstrated implementation of the nine minimum control technologies as specified in the Policy.
    b. San Francisco has substantially completed its CSO control program as demonstrated by Table 2. Master Plan Projects and has otherwise demonstrated compliance with section I.C.1 of the CSO Control Policy. Therefore, the Discharger is not required to complete a (new) CSO long-term plan.
    c. San Francisco has demonstrated compliance with the "Presumption" Approach for compliance during wet weather with water quality standards. (See Fact Sheet for a discussion of the "Presumption" Approach.)
    d. San Francisco's implementation of it's wastewater master plan appropriately considered sensitive areas as required in the CSO Control Policy.
    e. During wet weather, San Francisco operates its Oceanside WPCP at the maximum capacity compatible with safe operation and thus is in compliance with the Policy provisions which allow for the discharge during wet weather of combined sewer flows which have received primary-only treatment.

    In summary, the Board and EPA have determined that Discharger's integrated approach to controlling storm flows is consistent with the Policy.

16. **Water quality requirements for shoreline treated CSOs**: In Order WQ79-16, the Board granted an exception to all water quality standards in the California Ocean Plan for the shoreline CSOs. This includes an exception to the water-contact standards. This exception was granted by the State Board and approved by EPA because of the impracticability of shoreline discharges from a combined sewer system meeting these requirements. The Order states: "the exception will not compromise protection of ocean waters for beneficial uses, and the public interest will be served." Because the City has exceeded the minimum level of treatment outlined under Section II.C.4.A of the 1994 CSO Policy ("Presumption" approach), the wet weather facilities are "presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA." Therefore, there are no numerical effluent limits applied to the treated shoreline

CSOs. The City, however, is required to operate the facilities to achieve this level of treatment. (See discussion of "presumption" approach in Fact Sheet).

17. **Items for re-proposal and item remanded:** In 1990, EPA and the Board adopted a joint permit for Oceanside Treatment Facility and the Southwest Ocean Outfall, NPDES # CA0037681, Order No. 90-093 (it did not cover shoreline CSOs). On January 31, 1992, EPA's Regional Administrator denied a request by the Sierra Club, Surfrider Foundation and the Central Coast Conservation Center for an evidentiary hearing on this NPDES permit pending the re-proposal of three specific items in the permit. The specific items for re-proposal are listed as follows and are addressed in the new draft permit and the Fact Sheet:

a. Whether BAT or BCT requires effluent limitations that reflect the additional amount of pollutant removal achievable through expansion of the Transport's existing capacity to store combined flows for later treatment at the new Oceanside Plant, thus reducing the amount of decant discharged to the SWOO.

b. Whether the new Oceanside Plant should be exempted in whole or in part under 40 CFR 133.103(a) from complying with the monthly 85% removal rate for BOD and TSS when its hydraulic capacity is exceeded for more than three days during wet weather.

c. Whether a wet weather flow limit for the effluent from the Oceanside Plant is appropriated and, if so, what the appropriate limit should be.

Subsequent to the decision by the EPA administrator to deny the request for an evidentiary hearing, the Sierra Club and Coastal Advocates petitioned the Environmental Appeals Board to review EPA's decision. The Appeals Board decision, dated March 24, 1993, denied review in part and remanded in part. As result of the decision, the permit has remained in effect with the exception the following remanded item:

> *The permit fails to establish enforceable mass limitations during a specific three-month period of the year. This portion of the permit is remanded to the Region to establish appropriate mass limitations as required by EPA regulations.*

EPA and the Board have established appropriate mass limitations (see Fact Sheet).

18. **Richmond-Sunset WPCP**: On July 18, 1984, the Board adopted Order No. 84-45, NPDES Permit No. CA 0037681, prescribing waste discharge requirements for the Richmond-Sunset Water Pollution Control Plant (WPCP). At that time, the plant discharged to state waters near Mile Rock. The Discharger completed its ocean outfall in 1986 and began discharging Richmond-Sunset plant effluent to federal water via the new outfall in September, 1986.

19. **Oceanside WPCP:** The Oceanside WPCP replaced the older Richmond/Sunset Plant in September 1993 and began discharging "secondary" effluent to federal waters via the ocean outfall diffuser located 3.7 miles offshore. The Oceanside WPCP provides both a higher level of treatment (full secondary treatment) and a larger primary treatment

capacity (total of 65 MGD) than the old Richmond-Sunset WPCP which provided only 45 MGD of primary treatment.

20. **Deletion of Disinfection Requirements:** On May 17, 1989, the Board adopted Order No. 89-71, amending Order No. 88-106 (NPDES # CA0037681) to delete the disinfection requirements from the Order. The Board action was based on the final technical report dated April 3, 1989 submitted by the Discharger entitled "Wastefield Transport and Bacteriological Compliance Studies of The San Francisco Ocean Outfall". The studies were conducted in 1987 and 1988. The findings indicate that the present non-disinfected wastewater discharge from the Southwest Ocean Outfall does not and will not in the future violate the California Ocean Plan bacteriological body-contact standards. Monitoring since 1986 supports this conclusion.

21. **Beneficial Uses:** The Ocean Plan protects the following beneficial uses of State ocean waters: industrial water supply, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other marine resources or preserves. The Basin Plan identifies the following beneficial uses of the Pacific Ocean in the vicinity of the San Francisco Bay Region:
    - o Commercial and sport fishing
    - o Fish migration and spawning
    - o Marine habitat
    - o Mariculture
    - o Navigation
    - o Non-contact recreation
    - o Preservation of Areas of Special Biological Significance
    - o Preservation of rare and endangered species
    - o Shellfish harvesting
    - o Water contact recreation

22. **Basis for water quality standards applied to discharge from SWOO:** Though the discharge is located 0.3 miles beyond State Waters, compliance with parameters borrowed from the Ocean Plan is required immediately after initial dilution. This requirement will assure that under worst-case conditions the receiving waters are protected. In addition state standards will be met within state waters. In addition, compliance with the Ocean Plan immediately after initial dilution is required to provide the basis for EPA's determination that the discharge will not cause unreasonable degradation of the marine environment as required by section 403 of the Act. Section 403(a) of the Act prohibits discharge to Ocean Waters except in compliance with guidelines established under section 403(c) of the Act. Section 403(c) of the Act requires that guidelines be promulgated for determining the degradation of marine waters. Federal Regulations at 40 CFR 125.122(b) (Determination of unreasonable degradation of the marine environment) state:

    Discharges in compliance...with state water quality standards shall be presumed

not to cause unreasonable degradation of the marine environment, for any specific pollutants or conditions specified in the... standard.

The Ocean Plan is not directly applicable to the discharge from the SWOO at the point of discharge because the discharge occurs outside of state waters. However, because the discharge is in compliance with standards promulgated for ocean discharges within state waters (i.e. the 1990 California Ocean Plan) and because these standards address the criteria listed under 403(c)(1)of the Act, EPA concludes that compliance with the Ocean Plan provides a reasonable basis for concluding that the discharge from the SWOO is entitled to the presumption that it does not cause unreasonable degradation for the pollutants and conditions provided for in the Ocean Plan. EPA's review of the application and monitoring data supplied by the City of San Francisco provides no basis for rebutting this presumption. Therefore, EPA determines that the discharge is permitted under section 403 of the Act.

23. **Dilution calculation:** The Ocean Plan requires water quality criteria to be met immediately following initial dilution. (See Fact Sheet for more detailed discussion.) This is an extremely conservative assumption because initial dilution is calculated via a model based on the following conditions: 1. Monthly average flow rates which give the lowest dilution; and 2. No ambient current. The UDKHDEN model calculates an initial dilution of 76:1. (April 13, 1990 Memorandum from Dave Jones, CCSF, to Steve Hill and Johnson Lam, RWQCB) This is the number used to calculate water quality-based effluent limits. The measured initial dilution based on dye studies appears to be closer to 200:1 (Wastefield Transport and Bacteriological Compliance Studies of the San Francisco Ocean Outfall, CH2MHill, March, 1989). Future permits may use appropriate dilution ratios for the type of parameter regulated (acute, chronic, human life) as provided for in EPA's Technical Support Document for Water Quality-based Toxics Control.

24. **"Reasonable potential" determination:** 40 CFR 122.44(d)(1)(I) requires the permit to include limits for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause or contribute to an excursion above any State water quality standard." Based on a "reasonable potential" analysis submitted by the City and reviewed and approved by EPA and the Board, all water quality-based numerical effluent limitations (Table B of Ocean Plan) have been removed from this draft permit with the exception of Mercury and Chronic Toxicity. (See Fact Sheet for complete discussion). A reopener provision is included in this permit that allows numeric limits to be added to the permit for any constituent in Table B of the Ocean Plan that in the future exhibits reasonable potential to cause or contribute to an exceedance of a water quality standard. This determination will be made by EPA and the Board based on monitoring results.

25. **Water Pollution Prevention Program:** As required by the permit, in September 1990, San Francisco submitted to the Board a program plan which described the implementation of its Water Pollution Prevention Program. This ongoing program is intended to prevent the disposal of toxic substances to the sewer system.

26. **Recreational Use Study:** Recreational use of Ocean Beach has increased significantly. Over the course of this permit, the City will be undertaking a recreational use study of Ocean Beach in order to asses the current levels of recreational use of the shoreline and near shore waters. The City intends to develop the workplan, but will be conferring with the GGNRA, NOAA Marine Sanctuary Program, the Surfrider Foundation, and other interested parties. The City expects that two full wet weather seasons will be necessary to get adequate winter use data. The City expects to complete the study by mid-1999.

27. **Pretreatment program:** The Discharger has implemented and is maintaining an EPA-approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR 403).

28. **Operations and Maintenance Manual:** An Operations and Maintenance Manual is maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.

29. **Endangered Species Consultation:** EPA consulted with the U.S. National Marine Fishery Service as mandated by Section 7(a)(2) of the Endangered Species Act. Under the informal consultation process, EPA requested:
    1) a clarification of whether and what listed, proposed, and candidate species or designated or proposed critical habitats may be in the action area;
    2) a determination of the effects the action may have on these species or critical habitats; and
    3) a concurrence that formal consultation is not necessary because adverse effects are not likely to occur, or a determination of the need to enter into formal consultation for listed species or designated critical habitats.

    USNMFS responded in a letter dated May 7, 1996 and identified the possibility of the Sacramento River winter-run chinook salmon in the area of the discharge (though there is no designated critical habitat in the project area). USNMFS, however, feels the draft monitoring plan is sufficient to identify any effects of discharge on the chinook salmon, and stated that the issuance of the proposed NPDES permit will not likely to adversely affect the chinook salmon.

30. **Order/NPDES Permit:** This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code. The Order may also be referred to as a "Permit" herein.

31. **Opportunity to comment:** The Discharger and interested agencies and persons have been notified of the EPA and Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.

32. **Public Meeting:** At time of permit adoption, the Board and EPA, in a public meeting, will have heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastewater is prohibited unless discharged through the Ocean Outfall Diffuser at 37° 42' 18" North latitude, 122° 34' 39" West longitude (start of diffuser), except wet weather discharges (as defined in note 1 below).

2. Bypass (as defined in note 2 below) of the secondary treatment facilities at Oceanside WPCP is prohibited, except during wet weather discharges.

3. Discharge of effluent from the Oceanside WPCP which does not receive an initial dilution of at least 76:1 is prohibited.

4. Wet weather discharges (as defined in note 1 below) are allowed only in accordance with Sections C and D below.

NOTES:

(1) "Wet weather discharge" is any discharge occurring (from either the SWOO or any shoreline CSO discharge point) when one of the following conditions exists as result of rainfall:

a. The instantaneous influent flow to the Oceanside WPCP is exceeding 43 MGD; or

b. The average daily influent (to the Oceanside WPCP) concentration of TSS is less than 100 mg/l on the day discharge occurs.

(2) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. Bypass is prohibited unless the following conditions are met during wet weather discharges:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

b. There were no feasible alternatives to the bypass, such as the auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime.

B. Dry weather Effluent Limitations for SWOO:

Representative samples of combined effluent discharged through the SWOO from sampling station E-001 (see"Monitoring and Reporting Program"), shall not exceed the following limits during dry weather discharges:
(These limits are derived partly from the California Ocean Plan and are incorporated herein based on EPA's determination that compliance with said provisions provides the basis for EPA's determination that the discharge will not cause unreasonable degradation as required by Section 403 of the Act.)

1. Technology-Based Limits derived using Table A of the 1990 California Ocean Plan and Secondary Treatment Regulation at 40 CFR 133.102:

Constituent	Units	Monthly Average	Weekly Average	Daily Max.	Instantaneous Max.
Biochemical Oxygen	mg/l	30	45	60	---
Demand (BOD_5)[1]	lb/day	6,005	9,007	12,010	---
Total Suspended	mg/l	30	45	60	---
Solids (TSS)[1]	lb/day	6,005	9,007	12,010	---
Grease and Oil	mg/l	25	40	---	75
	lb/day	5,004	8,006	---	15,012
Settleable Matter	ml/l-hr	1.0	1.5	---	3.0
Turbidity	NTU	75	100	225	---
Acute Toxicity[2]	TUa	1.5	2.0	---	2.5

(1) The arithmetic mean of the biochemical oxygen demand (five-day, 20°C) (BOD_5) and suspended solids value by weight, for effluent samples collected in a calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal, 40 CFR 133.103(a)). Measurements taken on wet weather days shall not be included in calculating percent removal .

(2) Acute Toxicity shall be measured in accordance with Section II of the monitoring program.

2. Water Quality-Based Limits derived using Table B of the 1990 California Ocean Plan and a Reasonable Potential Analysis:

Constituent	Units	6 Monthly Median	Daily Max.	Instan-taneous Max.
Mercury	mg/l	0.003	0.012	0.031
	lb/day	0.6	2.4	6.2
Chronic Toxicity [1]	TUc	---	77	---

(1) Chronic Toxicity shall be measured in accordance with Section II of the monitoring plan.

C. Technology-Based Wet Weather Discharge Requirements

The Discharger shall continue to comply with the following technology-based requirements for the Westside Wet Weather Control Facilities (these include, but are not limited to, the nine-minimum control technologies established in the 1994 CSO Policy):

1. Conduct proper operations and regular maintenance programs. The Discharger shall implement the Operations and Maintenance Plan for the combined sewer system that will include the elements listed below. The Permittee also shall update the plan to incorporate any changes to the system and shall operate and maintain the system according to the plan. The Permittee shall keep records to document the implementation of the plan.
   a. Designation of a Manager for Treated Combined Sewer Overflows.
   The Discharger shall designate a person to be responsible for the wastewater collection system and serve as the contact person regarding the combined sewer system. The Permittee shall notify the permitting authority within 90 days of designation of a new contact person.
   b. Inspection and Maintenance of CSS.
   The Discharger shall inspect and maintain all overflow structures and pumping stations, to ensure that they are in good working condition and adjusted to minimize overflows at least once per year. The decant facilities, and the storage/transports shall be inspected and receive maintenance as needed periodically throughout the year. The SWOO shall be inspected at least once every five years. The Permittee shall record in a maintenance log book the results of the inspections. For overflow outfalls that are inaccessible, the Permittee may perform a visual check of the overflow pipe to determine whether or not the overflow is occurring during dry weather flow conditions.
   c. Provision for Trained Staff.
   The Discharger shall provide an adequate number of full-time equivalents to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. Each member of the staff shall receive appropriate training.
   d. Allocation of Funds for Operation and Maintenance.

The Discharger shall allocate adequate funds specifically for operation and maintenance activities. The Permittee shall submit a certification of assurance that the necessary funds, equipment, and personnel have been or will be committed to carry out the O&M plan.

2. Maximize use of the collection system for storage.
The Discharger shall continue to maximize the inline storage capacity. (Note: This provisions refers to using the sewers for storage to the maximum extent possible. It does not refer to the storage/transports.)

3. Review and modify pretreatment program.
The Discharger shall continue to implement selected controls to minimize the impact of non- domestic discharges. The Permittee shall re-evaluate every 5 years whether additional modifications to its pretreatment program are feasible or of practical value. The Permittee shall keep records to document this evaluation and to document implementation of the selected controls to minimize non-domestic discharges.

4. Maximize flow to POTW treatment plant (Oceanside WPCP).
The Discharger shall operate the POTW treatment plant at a maximum treatable flow during wet weather flow conditions/events (consistent with engineering considerations) and deliver all flows to the treatment plant within the constraints of the capacity of the treatment plant and the goal of minimizing shoreline discharges. It is understood that the capacity of the secondary treatment facilities must be increased at set rate in order to maintain the viability of the biological treatment organisms. Therefore, the wet weather treatment capacity varies with the height of the stored wastewater in the Westside Transport. The Discharger shall keep records to document these actions.

5. Prohibit combined sewer overflows during dry weather. Dry weather overflows from overflow outfalls are prohibited. (see Prohibition No.1.) All dry weather overflows must be reported to EPA and the Board within 24 hours of when the Permittee becomes aware of a dry weather overflow. Dry weather overflows through the SWOO shall also be reported to the Monterey Bay National Marine Sanctuary.

When the Discharger detects a dry weather overflow, the Permittee shall begin corrective action immediately. The Discharger shall inspect the dry weather overflow each subsequent day until the overflow has been eliminated. The Discharger shall record in the inspection log book dry weather overflows, as well as the cause, corrective measures taken, the dates and times of the beginning and cessation of overflow, an estimate of flow volumes, and a summary of all beach postings.

6. Control solid and floatable materials in treated CSOs. The Discharger shall continue to implement measures to control solid and floatable materials in its overflows.
These measures shall include:
(a) Ensure that all overflows from the diversion structures are baffled or that other means are used to reduce the volume of floatables.
(b) Remove solid or floatable materials captured in the storage/transport in an acceptable manner prior to discharge to the receiving water (by physical removal or discharge to the Oceanside treatment plant).

7. Develop and implement pollution prevention program.
The Discharger shall continue to implement a pollution prevention program focused on reducing the impact of overflows on receiving waters. The Permittee shall keep records to document pollution prevention implementation activities. This program shall include pollution prevention efforts which include developing and implementing a public education outreach program, a technical assistance program, and an increased permitting program focused on the following sources:
a. Storm Water - keeping toxicants off street surfaces and away from rain water to reduce the toxicants washed into sewers during storms.
b. Industrial and Commercial Wastewater - both mandatory discharge limits and implementation of the waste minimization programs to help reduce toxicants from this source.
c. Residential Wastewater - City residents can unknowingly contribute to pollution problems by dumping toxicants in their toilets, sinks, and other drains. Pollution prevention measures include education and providing alternative disposal methods.

Annually, the Discharger will reassess the pollutants of concern for the pollution prevention program to insure that the program efforts are being directed toward those constituents which have the highest potential to impair beneficial uses. Results of the program shall be summarized and submitted to EPA and the Board annually. At a minimum, such a program should include the following measures:
Educational Control Measures:
E1. Educate residents regarding the impacts that result when oil, antifreeze, pesticides, herbicides, paints, solvents, or other potentially harmful chemicals are dumped into sewers.
E2. Educate residents regarding the proper use (e.g., application methods, frequencies, and precautions) and proper management of fertilizers, pesticides, herbicides, and other potentially harmful chemicals.

E3. Educate residents regarding the effective use of "housekeeping" practices, including the use of adsorbents, cleaning compounds, and oil/grease traps for controlling oil and grease in gas stations, automotive repair shops,

parking areas, commercial/industrial facilities, and food service facilities.

E4. Educate residents regarding the need to keep rainfall and runoff from contacting potential contaminants. Describe typical examples of the problem and practical solutions.

Regulatory Control Measures:

R1. Research, strengthen (if necessary), and enforce regulations which give the Discharger the legal authority to control the improper disposal of potentially harmful wastes.

R2. Research, strengthen (if necessary), and enforce regulations which give the Discharger the legal authority to prevent the improper disposal of soil, debris, refuse, or other pollutants into storm drains, sewers and catch basins.

R3. Research, strengthen (if necessary), and enforce regulations which give the Discharger the authority to require oil and grease controls in areas which are significant sources (e.g., gas stations, automotive shops, wrecking yards, machine shops, commercial/industrial facilities, parking areas, and food service establishments).

R4. Develop and implement regulations which require landowners and/or tenants to provide covers (e.g., roofs, tarps) to keep rain off of areas which contain contaminants (e.g., chemical storage areas, waste storage areas, contaminated industrial areas); and to keep runoff from draining through areas which contain contaminants.

Public Agency Control Measures:

P1. Label storm drain inlets and provide signs along the banks of storm drains, sewers, catch basins and creeks explaining the environmental impacts of dumping wastes.

P2. Develop and implement programs which provide convenient means for people to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful chemicals (recycle if possible).

P3. Conduct a study to determine sources of Dioxin and Tributyltin (TBT) in wastewater/stormwater and efficacy of treatment plant in removing Dioxin and Tributyltin. This study shall include, at a minimum:

1. Monitoring of TCDD equivalents (Dioxin) and Tributyltin in both influent and effluent during dry weather.
2. Monitoring of TCDD equivalents (Dioxin) and Tributyltin in both influent and effluent during storm events.
3. Research to determine sources of Dioxin and Tributyltin if data indicates that discharge has a reasonable potential for exceeding the water quality criterion.
4. Assessment of whether controls are feasible or warranted based on known sources of dioxins, the relative concentration in the wastewater, and the available control methods.

The study plan shall be submitted to EPA and the Board within 150 days of the effective date of the permit. Within 180 days, the study plan shall be implemented, unless rejected by EPA or the Board. The study shall be completed and submitted within two years of the effective date of the permit.

8. Notify the public of treated overflows.
   a. The Discharger shall continue to implement a public notification plan to inform citizens of when and where treated CSOs occur. The process must include:
   -Mechanisms to alert persons using all receiving water bodies affected by overflows.
   - A system to determine the nature and duration of conditions that are potentially harmful to users of these receiving water bodies due to treated overflows.
   Specifically, warning signs shall be posted at sites when water contact recreation is enjoyed by the public whenever there is a discharge from the diversion structures. Such warning signs should be posted on the same days as the overflow unless the overflow occurs after 5:00 pm, in which case the signs should be posted by 9:00 am the next day. The warning signs should remain up until receiving water analyses indicate that Basin Plan objectives for contact recreation are being met.
   b. Annually, the Discharger shall submit all changes to its public notification plan to EPA and the Board. The Discharger shall also consult with the Surfrider Foundation, GGNRA, and other interested parties as appropriate in its continuing effort to enhance the efficacy of this plan.
   c. Where possible, clearly label overflow outfalls.
   d. The Discharger shall keep records documenting public notification.
   e. If EPA or the Board determine that the public notification procedures are insufficient to protect human health, the permit may be reopened for the inclusion of specific notification requirements.

9. Monitor to effectively characterize overflow impacts and the efficacy of CSO controls.
   The Discharger shall monitor overflows in accordance with the attached monitoring program. In addition, the Discharger shall submit to EPA and the Board an annual report including the following information:

   a. Summary of existing data in order to show status and trends;
   b. Evaluation of results in order to effectively characterize overflow impacts and efficacy of CSO controls (including pollution prevention efforts);
   c. Analysis of shoreline monitoring program in order to determine any

improvements in sampling procedures, constituents sampled, frequency of sampling, location of sampling points, etc.;

d. Study to determine efficacy of transport's baffling system to remove toxicants; and

e. Evaluation of models and flow-measurement devices to gauge volume of treated CSOs discharged to the shoreline during overflow events.

The appropriate portions of the attached self-monitoring program may be revised to implement suggested changes.

D. Wet Weather Water Quality-Based Limits (Operation requirements for wet weather facilities)

1. The Discharger shall operate combined sewer storm flow control and treatment facilities (which have been designed to achieve a long-term average of eight treated shoreline overflows per year) in order to:

   a. Minimize the frequency of CSOs to the shoreline.

   b. Maximize the volume of wastewater treated at the Oceanside WPCP and discharged via the ocean Outfall, consistent with the hydraulic and treatment capacities of the Discharger's storage, transport and treatment facilities, and

   c. Assure that all discharges from the shoreline discharge points (Table 1) are first baffled to reduce floatables volume.

   The operation plan may be used by Board and EPA staff to assess conformance with the requirements above. The Discharger may propose amendments, which are also subject to EPA and Board Executive Officer review and approval. The operation plan may be part of the Discharger's operation and Maintenance Manual. The Discharger's conformance to the operation plan will constitute compliance with these receiving water limitations. Conversely, failure to comply with the plan will consist of non-compliance with these limitations.

2. The Discharger shall capture for treatment, or storage and subsequent treatment, 100% of the Westside combined sewage volume collected in the combined sewage system during precipitation events under design conditions. Captured combined sewage shall be directed either to the Oceanside WPCP, or to the storage/transports.

   All combined sewage captured shall receive a minimum of the following treatment:

   a. Flow-through treatment (storage/transports)

   b. Primary treatment (Oceanside WPCP)

   c. Secondary treatment (Oceanside WPCP)

3. Reassessment of treated CSOs to sensitive areas:

   The Permittee will complete a preliminary engineering assessment of a range of

options for additional overflow reductions. The study will identify options to eliminate or relocate overflows, assess feasibility and costs, and review impacts to sensitive areas. This report will be submitted to USEPA and the RWQCB prior to permit expiration.

4. The Board and EPA may establish wet weather performance-based limitations in the future for the Oceanside WPCP after reviewing wet weather discharge data. This Order/Permit may be reopened for the inclusion of such limits.

E. Receiving Water Limitations for SWOO Discharges:

The discharge from the Southwest Ocean Outfall shall not cause the following water quality objectives to be violated in ocean waters upon completion of initial dilution (These limits are derived from the California Ocean Plan and are incorporated herein based on EPA's determination that compliance with said provisions provides the basis for EPA's determination that the discharge will not cause unreasonable degradation as required by Section 403 of the Act):

1. Physical Characteristics
   a. Floating particulates and grease and oil shall not be visible.
   b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
   c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.
   d. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

2. Chemical Characteristics
   a. The dissolved oxygen concentration shall not at any time be depressed more than ten percent from that which occurs naturally as a result of the discharge of oxygen demanding waste materials.
   b. the pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
   c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
   d. The concentration of organic materials in marine sediments shall not be increased to levels which would degrade marine life.
   e. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

3. Biological Characteristics
   a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.

b. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

c. The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

4. Reopener
If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board and EPA will revise and modify this Order in accordance with such more stringent standards.

5. Receiving water monitoring shall be conducted in accordance with the attached Self-Monitoring Program, Parts A and B.

F. Sludge Requirements

1. All sludge generated by the Permittee shall be reused or disposed of in compliance with the applicable portions of:
   a) 40 CFR 258: for sludge disposed of in Municipal Solid Waste landfills;
   b) 40 CFR 503: for sludge reused by land application, incinerated, or disposed of in sludge-only surface disposal sites (dedicated land disposal sites or sludge-only landfills;
   c) 40 CFR 257: for all sludge disposal practices not covered under 40 CFR 258 or 503.

2. The Permittee is responsible for informing subsequent preparers, appliers, or disposers of the sludge of the requirements they must meet under 40 CFR 257, 258, and 503. The Permittee is responsible for assuring that its sludge is disposed or reused at a site which is permitted by the State of California.

3. Duty to mitigate: The Permittee shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.

4. No sludge shall be allowed to enter waters of the United States, or to contaminate an underground drinking water source.

5. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

6. The Permittee shall assure that haulers who ship non-Class A sludge off-site for additional treatment/reuse/disposal take all necessary measures to keep sludge contained.

7. Sludge that is stored for over two years from the time it is generated will be considered to be surface disposal, and must meet all the requirements of a surface disposal site under 40 CFR 503 Subpart C. If a Permittee wants to store sludge for longer periods of time prior to final disposal, a written request shall be submitted to EPA with the information in 503.20 (b).

8. Sludge containing more than 50 mg/kg PCB's shall be disposed of in accordance with 40 CFR 761.

9. The Discharger shall provide written notification to the Board and EPA at least 90 days prior to making any significant changes in sludge disposal practices.

10. The treatment, disposal, storage, or processing of sludge shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code.

11. Any sludge treatment, disposal, storage, processing site shall have facilities adequate to divert surface runoff from adjacent area, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site to escape from the site. Adequate protection is defined as protected from at least a 100-year storm and from the highest tidal stage that may occur.

12. Monitoring shall be conducted as follows:
    a. The sludge shall be tested annually using the Toxicity Characteristic Leaching Procedure (TCLP) at least once per year or more frequently if necessary to determine hazardousness. This permit may be modified to allow Whole Effluent Toxicity (WET) testing to be substituted for TCLP testing at the Discharger's request.
    b. For any sludge to be land applied:
        i) The sludge shall be tested for the metals required in Section 503.16 at the frequencies specified in 503.16, using the methods in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods"(SW-846), as required in 503.8(4). The Permittee shall develop a representative sampling plan, including number and location of sampling points. Result of these tests shall be expressed in mg pollutant per kg sludge on a 100% dry weight bases.

ii) The sludge shall be tested for TKN, ammonium-N, and nitrate-N at the frequencies required in I) above for metals.

iii) The permittee shall demonstrate that the sludge meets Class A or Class B pathogen reduction levels as required in 503.32.

iv) The permittee shall demonstrate that the sludge meets one of the Vector Attraction Reduction requirements in 503.33 requirements 1-8, unless the applier meets requirement 9 or 10.

c. For any sludge to be placed on a surface disposal site:

i) If the site is unlined, the sludge shall be tested for the metals required in Section 503.26, using the methods in SW-846, as required in 503.8(4). The Permittee shall develop a representative sampling plan, including number and location of sampling points. Results of these tests shall be expressed in my pollutant per kg sludge on a 100% dry weight basis.

ii) The Permittee shall demonstrate that the sludge meets Class A or Class B pathogen reduction levels as required in 503.32 unless the VAR requirement 11 (sludge covered at end of each operating day) is met.

iii) A qualified groundwater scientist must develop a groundwater monitoring program for the site, or must certify that the placement of sludge on the site will not contaminate an aquifer.

d. For any sludge shall be tested by the Paint Filter Test (method 9095) as frequently as needed to demonstrate that there are no free liquids.

13. The Permittee shall comply with the following notification requirements:

a) Notification of non-compliance: The Permittee shall notify EPA Region 9 and the Board of any non-compliance within 24 hours if the non-compliance may seriously endanger health or the environment. For other instances of non-compliance, the Permittee shall notify EPA Region 9 and the Board of the non-compliance in writing within 5 working days of becoming aware of the non-compliance.

b) If sludge is shipped to another State or to Indian Lands, the Permittee must send 60 days prior notice of the shipment to the permitting authorities in the receiving State or Indian Land (the EPA Regional Office for that area and the State/Indian authorities).

c) For sludge that is land applied, the Permittee shall notify the applier in writing of the nitrogen content of the sludge, and of the applier's requirements to certify that the sludge was applied in accordance with the management practices, site restrictions, and any applicable vector attraction reduction requirements required in 40 CFR 503 Subpart B, and of the applier's requirement in 503. 12 (j) to pre-notify the EPA Regional Office

of the application of any sludge which exceeds the metals concentrations in 503.13 Table 3.

14. The Permittee shall submit an annual sludge report to EPA and the Board by February 19 of each year for the period covering the previous calendar year. The report shall include:
    a) the amount of sludge generated that year, in dry metric tons;
    b) the amount, in dry metric tons, that was I) disposed of in landfills, ii) land applied, iii) placed in surface disposal sites, iv) amount that was stored on-site and off-site, v) sent to other sludge treaters for further treatment, and vi) amount disposed of by other means.
    c) results of all pollutant monitoring required in the Sludge Monitoring Section above.
    d) Certifications and descriptions of pathogen reduction methods, vector attraction reduction methods, site and harvesting restrictions, and management practices as required in 503.17 and 503.27.
    e) Results of groundwater monitoring or certification by groundwater scientist that the sludge will not contaminate an aquifer.
    f) Names and mailing addresses of land appliers or surface disposal site operators, location of sites (lat. and long.); size of parcels, crops grown, and actual loading rates used.
    g) Names, mailing addresses, and street addresses of persons who received sludge for storage, further treatment, disposal in a municipal waste landfill, or for other reuse/disposal methods not covered above.

    Reports shall be submitted to:

    Regional Sludge Coordinator (WTR-7)
    U.S. EPA Region 9
    75 Hawthorne St.
    San Francisco, CA 94105-3901

    San Francisco Regional Water Quality Control Board
    2101 Webster Street, Suite 500
    Oakland, CA 94612
    Attn: South Bay Watershed Management Division

G. Provisions

1. Requirements prescribed by this Order supersede the requirements prescribed by Orders Nos. 90-093 and No. 89-71. Order Nos. 89-71 and 90-093 (NPDES Permit No. CA 0038415) are hereby rescinded.

2. The discharge of pollutants shall not create a nuisance as defined in the California Water Code.

3. If the EPA or the Board finds that the operation of the wet weather facilities results in unacceptable adverse impacts on beneficial uses, the long-term average overflow frequency may be modified. Such action could require the modification of constructed facilities, the modification of the operation of constructed facilities, or the construction of additional facilities.

4. This Order may be reopened for the imposition of additional requirements should monitoring indicate that the current controls fail to meet water quality standards and/or not protect designated uses.

5. The Discharger shall comply with all sections of this Order/NPDES Permit immediately upon adoption.

6. The Discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements" dated December, 1986.

7. The Discharger shall review and update its Operations and Maintenance Manual annually, or in the event of significant facility changes, immediately after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to EPA and the Board by July 15 of each year. Documentation of operator input and review shall accompany each annual update.

8. The Discharger shall submit all required reports by July 15 of each year unless otherwise noted in the permit or monitoring plan.

9. The Discharger shall comply with the attached Self-Monitoring Program. EPA or the Board may make minor amendments to it pursuant to federal regulations (40 CFR 122.63).

10. The Discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements, and Definitions," dated August 1993, with the exception of items A.18, B.2, C.8, C.10(b), C.ll, and D.5.

11. This Order expires on March 19, 2002. The Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

12. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto.

We do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 19, 1997 and of an NPDES permit signed by the Director of the Water Management Division, U.S. Environmental Protection Agency, Region 9, on April 9, 1997.

Alexis Strauss
Acting Director
Water Division
U.S. Environmental Protection Agency
Region 9
for the Regional Administrator

Loretta K. Barsamian
Executive Officer
Regional Water Quality Control Board
San Francisco Bay Region

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 9
AND
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CITY AND COUNTY OF SAN FRANCISCO
OCEANSIDE TREATMENT PLANT,
SOUTHWEST OCEAN OUTFALL,
AND
WESTSIDE WET WEATHER FACILITIES

NPDES PERMIT NO. CA 0037681

CONSISTS OF
PART A, dated August 1993

AND

PART B

PART B

CITY AND COUNTY OF SAN FRANCISCO OCEANSIDE TREATMENT PLANT AND SOUTHWEST OCEAN OUTFALL

I. Influent and Effluent Monitoring Stations

Discussion:

Effluent monitoring is conducted to determine compliance with effluent limitations in the permit. Influent monitoring is necessary to determine compliance with percent-removal requirements for BOD and suspended solid and to assess overall plant performance.

Requirements:

Description of Sampling Stations

1. Influent

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment, and exclusive of any return flows or process side streams

2. Effluent

Station	Description
E-001	At any point after all sewage treatment units and before mixing with any effluent from the Westside Transport.

Sampling Schedule

The schedule of sample, analysis, and observations shall be that given in Table 1 and its footnotes, and as stated below.

II. Whole Effluent Toxicity (WET) Testing

Discussion:
Sections 308(a) and 402 of the Clean Water Act provide authority to EPA or the State to

require that NPDES permittees/applicants use biological monitoring methods and provide chemical toxicity and instream biological data when necessary for the establishment of effluent limits, the detection of violations, or the assurance of compliance with water quality standards. Further rationale regarding test protocols is provided in the document *Regions 9 &10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, May 31, 1996.

Requirement:

The permittee shall perform WET testing in accordance with the following:

A. Acute Toxicity

1. Definition:
   a. TUa = 100 / 96-hour LC 50.
   b. LC50 (percent waste giving 50% survival of test organisms) shall be determined by continuous flow bioassay techniques using standard test species. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC50 may be determined after the test samples are adjusted to remove the influence of those substances.
2. Test Species and Methods:
   Bioassays shall be performed using two test species in parallel tests: Rainbow Trout, *Oncorhynchus mykiss*, and Topsmelt, *Atherinops affinis*. (*Menidia beryllinia* may be substituted in *Atherinops affinis* is not available). These tests should be 96-hour static renewal tests conducted in accordance with EPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, EPA/600/4-90/027F, August 1993.
   Testing will be conducted monthly. If after twelve months of testing, no acute toxicity is observed, the permittee may cease monthly acute toxicity testing. However, annual rescreening of both species must be conducted (alternating seasons within the life of the permit), and the requirement for monthly testing will be reinstated if acute toxicity is detected.

B. Chronic Toxicity

1. Definition:
   a. Chronic toxicity measures a sublethal effect (e.g,. reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient water compared to that of the control organisms.
   b. Results shall be reported in TUc, where TUc = 100/NOEC (in percent effluent). The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test, that causes no observable adverse effect on the test organisms (e.g. the highest concentration of toxicant to which the values for the observed

responses are not statistically significant different from the controls).

2. Test Species and Methods:
   a. The discharger shall conduct tests on a monthly basis with a vertebrate, an invertebrate, and a plant, as follows for the first three suites of tests. After the screening period, monitoring shall be conducted monthly using the most sensitive species.
      Plant: Giant kelp, *Macrocystis pyrifera*, germination and germ-tube length test.
      Vertebrate: Topsmelt, *Atherinops affinis*, survival and growth test. (*Menidia beryllinia* may be substituted in *Atherinops affinis* is not available).
      Invertebrate: Red abalone, *Haliotis rufescens*, larval development test.
   b. Every year, the Discharger shall re-screen with the three species listed above, for one month at different times from the prior year and continue to monitor with the most sensitive species.
   c. the presence of chronic toxicity shall be estimated as specified in EPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA/600/R-95-136, August, 1995, Chapman, Denton and Lazorchak.

C. Whole Effluent Toxicity QA, TRE, TIE and Reporting

1. Quality Assurance
   a. The instream waste concentration (IWC), four concentrations bracketing the IWC and a control will be tested for each species. The IWC is the concentration of effluent at the edge of the mixing zone.
   b. Concurrent testing with reference toxicants shall be conducted.
   c. If either of the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, then the Discharger must re-sample and re-test as soon as possible.
   d. If the effluent test is statistically significant and the minimum significant difference (%MSD) is less than 5%, then the City at its option may exclude this result and repeat the test. Also, the effluent test must meet the upper limit of 20 % MSD which is the same as the reference toxicant. (In the future, EPA may use the excluded test results from for bioequivalence testing.)
   e. Control and dilution water should be receiving water as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water shall also be used.
2. Preparation of TRE Workplan
   The Discharger shall submit to EPA and Regional Water Quality Control Board a copy of the Discharger's TRE workplan (1-2 pages) within 90 days of the effective date of this permit. This plan shall describe the steps the Discharger

intends to follow if toxicity is detected, and should include provisions for, at minimum:

a. Information gathering phase to: investigate and evaluate information for potential causes/sources of toxicity, effluent variability, treatment system efficiency;
b. Steps for maximizing in-house treatment efficiency and good housekeeping; and
c. If a toxicity identification evaluation (TIE) is necessary, who will conduct it (i.e., is there in-house expertise, or will the study be sent out to contractor?).

3. Toxicity Reduction Evaluation (TRE):
   a. If chronic toxicity as defined [i.e., the permit limit] is detected then, in accordance with the Discharger's TRE workplan and EPA manuals EPA/600/4-89/001A (municipal), the Discharger shall initiate a TRE within fifteen (15) days of the exceedance to reduce the cause(s) of toxicity.
   b. If chronic toxicity as defined [i.e., the permit limit] is detected, then the Discharger shall conduct six more tests, bi-weekly (every two weeks), over a twelve-week period.

4. Toxicity Identification Evaluation (TIE)
   a. If chronic toxicity is detected in any of the six bi-weekly tests, then the discharger shall in accordance with EPA acute and chronic manuals EPA/600/6-91/005F(Phase I), EPA/600/R-96/054 (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III), initiate a TIE to identify the causes of toxicity.
   b. If none of the six tests indicates toxicity, then the Discharger may return to the normal testing frequency.

5. Reporting
   a. The Discharger shall submit the results of the toxicity tests, including any accelerated testing conducted during the month, in TUs with the discharge monitoring reports (DMR) for the month in which the tests are conducted.
   b. The full report shall be submitted by the end of the month in which the DMR is submitted.
   c. The full report shall consist of: (1) the toxicity test results; (2) the dates of sample collection and initiation of each toxicity test; (3) the source water; (4) the flow rate at the time of sample collection; and (5) the results of the effluent analyses for chemical/physical parameters required for the outfall as defined in Part B of the Self-Monitoring Program.
   d. Test results for chronic tests shall be reported according to the chronic manual chapter on Report Preparation, and shall be attached to the DMR.

It is also suggested that the Discharger submit the data on an electronic disk in the Toxicity Standardized Electronic Reporting Form (TSERF).

e. The Discharger shall notify EPA and the State in writing within thirty (30) days of exceedance of the limit trigger of

(1) Any findings of the TRE/TIE or other investigation to identify the cause(s) of toxicity;

(2) Actions the Discharger has taken or will take to mitigate the impact of the discharge, to correct the noncompliance and to prevent the recurrence of toxicity;

(3) Where corrective actions including a TRE/TIE have not been completed, an expeditious schedule under which corrective actions will be implemented; and

(4) If no actions have been taken, the reason for not taking action.

6. Reopener

This permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State or Federal water quality standards applicable to effluent toxicity.

III. Shoreline Monitoring (Surf Zone Sampling)

Discussion:

Shoreline monitoring is conducted to assess bacteriological conditions in areas used for water contact recreation (e.g. swimming, surfing). Nine years of previous monitoring data included the analysis of total and fecal coliform and enterococcus bacteria as indicator species. The analysis of these data show that total coliform bacteria more often indicates a potential public health hazard than fecal coliform bacteria. Because of this analysis, and the fact that total coliform bacteria standards are used in the notification of the public to situations when water quality does not meet public health standards (beach posting), total coliform bacteria will be the indicator species used in this permit's shoreline bacteriological monitoring.

Requirements:

Shoreline monitoring will be conducted at nine nearshore stations located from Baker Beach along the shoreline perimeter to Fort Funston three days per week (Monday through Friday, excluding holidays). Samples shall be collected in the surf and sampled for total coliform bacteria. Also, water temperature (°C) shall be taken and standard observations including debris, floatables, weather, and public use.

Location of Shoreline Stations

Station	Description
15	In the surf at the terminus of Lobos Creek along Baker Beach
16	In the surf opposite the Sea Cliff 2 pump station
17	In the surf along China Beach
18	In the surf along Ocean Beach at the foot of Balboa St.
19	In the surf along Ocean Beach at the foot of Lincoln Ave., opposite the Lincoln overflow structure
20	In the surf along Ocean Beach at the foot of Pacheco St.
21	In the surf along Ocean Beach at the foot of Vicente St., opposite the Vicente overflow structure
21A	In the surf along Ocean Beach at the foot of Sloat Blvd.
22	In the surf along Ocean Beach at Fort Funston, opposite the Lake Merced overflow structure:

IV. Westside Treated Combined Sewer Overflow (CSO) monitoring

Discussion:
The purpose of this program is to effectively characterize overflow events and impacts.

Requirements:
The discharger shall provide the following non-sampling information during CSOs:

a. Date and time that CSO discharge started;
b. Frequency, duration, and (if possible) volume of discharge;
c. Rainfall intensity and amount (hourly data, aggregated);
d. Summary data to support estimate of discharge volume; and
e. Summary data to document conformance with operation plan for wet weather facilities.

The discharger shall establish a representative station for the Westside CSO Control System. The Station shall be located at a point prior to discharge where all waste tributary to the diversion structure is present and all treatment (i.e. baffling) is complete. Effluent sampling will be required only during discharge events, which may last from less than an hour to over a day. Composite sampling shall commence within 1 hour after a discharge begins and continue until the discharge ceases, but not to exceed 24 hours. Samples shall be taken according to the following schedule :

Parameter	Sample Type	Sample Frequency
Flow (mgd)[5]	Continuous	Continuous during discharge
BOD (mg/l)	C-X[1] (X<24)	1/month
Suspended Solids(mg/l)	C-X[1] (X<24)	1/month

Ammonia as N (mg/l)	C-X[1] (X<24)	1/month
Oil and Grease (mg/l)	C-X[3] (X<24)	1/month
pH	C-X[3] (X<24)	1/month
Pesticides and PCBs[2]	C-X[1] (X<24)	1/month
Trace Metals[3]	C-X[1] (X<24)	1/month
PAHs[4]	C-X[1] (X<24)	1/month

Notes:

1. Composite sample (1/hour) over X hours (the duration of the discharge), not to exceed 24 hours.
2. Pesticides as identified in EPA Method 608
3. Measure concentrations of ten metals: arsenic cadmium, chromium (total), copper, lead, mercury, nickel, silver, zinc, and selenium.
4. Polynuclear aromatic hydrocarbons, as identified in the California Ocean Plan.
5. Models may be used to estimate flow.

V. Offshore Monitoring

Discussion:

The proposed Ocean Outfall Monitoring Program is designed to determine environmental effects from the discharged secondary treated effluent (18 MGD, dry weather flow) from the City and County of San Francisco's, Oceanside Water Pollution Control Plant. The previous monitoring studies used a traditional sampling design of seasonal station occupation and replicate sampling in the vicinity of the discharge pipe. Nine years of post discharge monitoring data have shown negligible effects due to the presence of the effluent discharge, and overwhelming effects due to seasonality. This monitoring program is being modified to answer new questions that were not addressed in the previous program.

The study plan characterizes the area outside San Francisco Bay between Rocky Point in Marin County and Point San Pedro in San Mateo County. Randomized sampling locations have been determined using the EPA's EMAP grid system within specified depth strata (see figures I and II). The purpose of this effort is to: 1) to evaluate gradient effects near the discharge pipe and gradient effects from San Francisco Bay; 2) to characterize non-affected areas that can be combined to define reference conditions; and 3) to provide information on sediment and infaunal characteristics in the area between the discharge pipe and the Monterey National Marine Sanctuary boundary.

Sampling will be conducted annually in the fall during the period when sediments are least disturbed and may show the highest concentrations of contaminants. By focussing the sampling effort on a single index period (fall), we eliminate the need to account for seasonal variability in the analysis of the data. This savings in

effort is used to increase the number of sample locations to better evaluate any spatial patterns in the data that might be attributed to the outfall and to provide information on reference conditions which can be used to evaluate any outfall-related effects.

This program will be implemented dynamically to maximize the amount of relevant and useful data that can be gathered within the five-year permit life by allowing the EPA, the Regional Board, and the City and County of San Francisco to agree to program corrections in response to ongoing analyses of monitoring data. The level of effort defined in the original program will not be exceeded in subsequent years. All data will be analyzed and reported to EPA and the Board by July of the following year to allow time to make modifications in the program for the following year. Data will also be transferred electronically in a standardized data transfer format.

V.(1) Benthic Monitoring (Sediment and Infauna)

Discussion:

Benthic monitoring is conducted to assess the accumulation of pollutants in sediments, to evaluate the physical and chemical characteristics of the sediments, and to evaluate the effects of the outfall on the benthic infaunal community. Analyses will be conducted to determine those factors which may affect a balanced indigenous population of infauna and to define appropriate reference sites.

Requirements:

Approximately 47 benthic samples will be collected in the first year. This includes 7 fixed stations to maintain time series at existing stations and a target of 40 random stations. Depending upon the results of the first year's analysis, that number may increase or decrease as needed.

All benthic samples will be collected using a 0.1 m^2 Smith McIntyre grab sampler. One sample shall be collected from each location for sediment analysis. The top 2-5 centimeters of sediment shall be removed from the surface of the grab, and analyzed for:

1. total volatile solids;
2. total organic carbon;
3. Kjeldahl nitrogen;
4. grain size including fractions of silt and clay;
5. Inorganic priority pollutant analysis[2];

The first year of the study will also include analysis of the DDT, PCB congeners and PAHs from sediments at a subset of 16 stations. The purpose of these organic analyses will be to compare contaminant concentrations around the outfall to concentrations in sediments that may be influence by the Bay. The exact location of these stations will be determined by the discharger in consultation with EPA and the Regional Board. Based on these findings, EPA, the Board, and the City may increase or decrease this number of stations as appropriate for the analysis of DDT, PCB congeners and PAHs.

[2]Inorganic priority pollutant analysis includes: Al, As, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Zn.

One sample shall be collected from each location for infaunal analysis. Each sample shall be passed through 1.0 mm and 0.5 mm sieves. The organisms retained on each sieve shall be relaxed and preserved for later taxonomic determination to the lowest taxon. Organisms from each taxon will be counted.

Stations:

Fixed Sampling Locations

Station	Latitude	Longitude
1	37 42 12.00	-122 34 31.20
2	37 42 37.80	-122 34 30.00
4	37 42 42.00	-122 35 42.00
6	37 40 00.00	-122 32 15.00
25	37 42 13.80	-122 34 30.00
28	37 41 54.00	-122 34 28.80
31	37 43 28.80	-122 34 01.80

Randomized Sampling Locations

Station	Latitude	Longitude
R1	37 52 04.77	-122 38 28.60
R2	37 51 06.14	-122 36 00.87
R3	37 51 04.65	-122 38 50.77
R4	37 50 53.96	-122 40 45.11
R5	37 50 15.84	-122 37 12.27
R6	37 50 11.61	-122 35 41.45
R7	37 49 40.86	-122 39 18.05
R8	37 49 19.20	-122 41 25.50
R9	37 48 31.68	-122 37 29.76
R10	37 47 48.31	-122 29 57.44
R11	37 47 10.02	-122 30 46.18
R12	37 47 07.88	-122 36 57.88
R13	37 46 39.77	-122 34 22.04
R14	37 46 29.37	-122 38 38.38
R15	37 46 23.73	-122 32 08.26
R16	37 45 39.83	-122 37 04.52
R17	37 45 33.87	-122 38 55.98
R18	37 45 24.69	-122 33 44.13
R19	37 45 00.01	-122 39 56.01
R20	37 44 46.38	-122 35 55.51
R21	37 43 43.07	-122 31 11.61
R22	37 43 04.34	-122 38 42.51
R23	37 42 59.44	-122 32 47.41
R24	37 42 56.50	-122 34 15.08
R25	37 42 41.24	-122 36 28.29
R26	37 42 33.84	-122 31 08.82
R27	37 42 15.49	-122 34 55.24
R28	37 41 35.66	-122 32 11.82
R29	37 41 20.89	-122 36 06.47
R30	37 40 55.35	-122 33 29.05
R31	37 40 56.18	-122 37 43.15
R32	37 39 31.65	-122 33 41.41
R33	37 39 14.63	-122 32 04.75
R34	37 38 02.91	-122 32 27.99
R35	37 37 42.23	-122 36 40.08
R36	37 37 34.73	-122 33 53.51
R37	37 37 00.97	-122 36 55.75
R38	37 36 52.15	-122 35 28.81
R39	37 36 32.16	-122 32 01.35
R40	37 36 16.73	-122 33 03.03

V.(2) Trawls

Discussion:

Trawls shall be conducted to assess the presence or absence of a balanced indigenous population of demersal fish and epibenthic invertebrates, and to determine the bioaccumulation of priority pollutants in these organisms.

Requirements:

The first year the monitoring study will include trawl sampling at one site in the vicinity of the discharge pipe, two far field sites, and one reference site. Analysis of the first year of sediment and infauna data will help determine overall characteristics of a large study area. Subsequent to year one, trawl sampling will include one trawl collected from approximately eight appropriate locations near the outfall and within the reference zone. Fish and invertebrates collected in each trawl will be identified to species. Abnormalities and disease symptoms shall be recorded and itemized (e.g. fin erosion, lesions, tumors). Standard length of all fish specimens will be measured, disk width will be measured for skates and rays, and the carapace length of shrimp and carapace width of crabs will be measured. All shrimp will be separated as gravid females and unsexed individuals, and crabs will be sexed.

To assess bioaccumulation effects, one fish and one macroinvertebrate species will be collected at a discharge site and at a reference location. The preferred species for use in the bioaccumulation studies are English sole (*Pleuronectes vetulus*) and the dungeness crab (*Cancer magister*). Muscle tissue will be analyzed to provide information on human health concerns; liver or hepatopancreas tissue will be analyzed to provide information on ecological health. Three composites of 10 or more organisms of similar size from each station will be collected for priority pollutant analysis. Tissues will be analyzed for metals (As, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn), DDT, PCB congeners, PAHs and lipids.

VI. Reporting Requirements

A. Self-Monitoring Reports for each calendar month shall be submitted monthly, to be received no later than the 20th day of the following month. The required contents of these reports are specified in section G.4. of Part A of the Self Monitoring Program.

B. An annual report covering the previous calendar year shall be submitted to the Regional Board by January 30 each year. The annual summary of wet weather activities and receiving water results will be submitted by July 31. The required contents of the annual report are specified in section G.5 of Part A of the Self Monitoring Programs.

C. Any overflow, bypass or other significant non-compliance incident that may endanger health or the environment shall be reported according to sections G.1 and G.2 of Part A of the Self Monitoring Program.

We do hereby certify that the foregoing is a full, true, and correct copy of a Self-Monitoring Program adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 19, 1997 and of an NPDES permit signed by the Director of the Water Management Division, U.S. Environmental Protection Agency, Region 9, on April 9, 1997.

Alexis Strauss
Acting Director
Water Division
U.S. Environmental Protection Agency
Region 9
for the Regional Administrator

Loretta K. Barsamian
Executive Officer
Regional Water Quality Control Board
San Francisco Bay Region

Effective Date: May 9, 1997

Attachments: Part A, dated August 1993
Figures I & II
Table 1

Table 1
INFLUENT AND EFFLUENT MONITORING SCHEDULES FOR
OCEANSIDE WATER POLLUTION CONTROL PLANT

Parameter		Influent A- 001			Effluent E-001	
(In ug/l unless otherwise noted)	C-24	Grab	Cont.	C-24[6]	Grab	Cont.
Flow Rate (MGD)[1]			D			D
BOD (5-day) (mg/l)	1/W[(11)]			1/W[(11)]		
Settleable Solids (ml/l-hr)					5/W	
Total Suspended Solids (mg/l)	5/W			5/W		
Grease & Oil (mg/l)[2]	M			M		
Turbidity (NTU)				W		
pH (units)		5/W			5/W	
Acute Toxicity (TUa)[3]				M		
Chronic Toxicity (TUC)[4]				M		
Arsenic (ug/l)				M		
Cadmium (ug/l)				M		
Chromium (ug/l)[5]				M		
Copper (ug/l)				M		
Lead (ug/l)				M		
Mercury (ug/l)				M		
Nickel (ug/l)				M		
Selenium (ug/l)				M		
Silver (ug/l)				M		
Zinc (ug/l)				M		
Cyanide (ug/l)[10]				M		
Ammonia as Nitrogen				Q		
Phenolic Compounds (total)				Q		
Endosufan (ng/l)				Q		
Endrin (ng/l)				Q		

HCH (ng/l) [9]				Q		
Radioactivity (pci/l)				Q		
Standard Observations[7]				3/W		
Acrolein				Q		
Antimony				Q		
Bis(2-chloroethoxy) methane				Q		
Bis(2-chloroisopropyl) ether				Q		
Chlorobenzene				Q		
Chromium III				Q		
Di-n-butyl phthalate				Q		
Dichlorobenzes [9]				Q		
1,1 dichloroethylene				Q		
Diethyl phthalate				Q		
Dimethyl phthalate				Q		
4,6, dinitro-2 methylphenol				Q		
2,4 dinitrophenol				Q		
Ethylbenzene				Q		
Flouranthene				Q		
Hexachlorocyclopentadiene				Q		
Isophorone				Q		
Nitrobenzene				Q		
Thallium				Q		
Toluene (Methylbenzene)				Q		
1,1,2,2 tetrachloroethane				Q		
Tributyltin [8]	Q			Q		
1,1,1 trichloroethene				Q		
1,1,2 trichlorethane				Q		
Acrylonitrile				Q		
Aldrin				Q		

Benzene				Q		
Benzidine				Q		
Beryllium				Q		
Bis(2-chloroethyl) ether				Q		
Bis(2-ethylhexyl) phathalate				Q		
Carbon tetrachloride				Q		
Chlordane [9]				Q		
Chloroform				Q		
DDT [9]				Q		
1,4, dichlorobenzene				Q		
3,3 dichlorbenzidine				Q		
1,2 dichloroethane				Q		
dichloromethane				Q		
1,3 dichlorpropene				Q		
Dieldrin				Q		
2, 4, dinitrotoluene				Q		
1,2 diphenyhydrazine				Q		
Halomethanes [9]				Q		
Halomethanes (All)				Q		
Heptachlor [9]				Q		
Hexachlorobenzene				Q		
Hexachlorobutadiene				Q		
Hexachloroethane				Q		
N-nitrosodimethylamine				Q		
N-nitrosodiphenylamine				Q		
PAHs [9]				Q		
PCBs [9]				Q		
TCDD equivalents (Dioxin) [8]	Q			Q		
Tetrachloroethylene (PERC)				Q		
Toxaphene				Q		
Trichloroethylene				Q		

2,4,6 trichlorophenol				Q		
Vinyl chloride				Q		
Proposed Additions to Ocean Plan:						
1,1, dichloroethylene				Q		
Isophorone				Q		
1,1,2,2 tetrachloroethane				Q		
1,1,2 trichloroethane				Q		

LEGEND FOR TABLE

Types of Samples

C-24 Flow-weighted composite sample (24 hours)
Grab Grab Sample
Cont. Continuous sample

Sampling Frequency

D Once per day
W Once per calendar week
M Once per calendar month
2/W Two days per calendar week
5/W Five days per calendar week
2/M Two days per
A Annual
Q Quarterly

TABLE NOTES:

1. Effluent flows from the Westside Transport (decant) shall also be measured and reported.

2. Grease and oil sampling shall consist of 3 grab sample taken at 8 hour intervals during the sampling day, with each grab being collected in glass container and analyzed separately. Results shall be expressed as a weighted average of the three results, based on the instantaneous flow rates at the time each grab sample was collected.

3. Bioassay samples shall be collected on days coincident with effluent composite sampling. The discharger may use the static renewal method for the 96-hour bioassay (renewal with 24-hour composite sample at 24-hour intervals during the test). Un-ionized ammonia concentrations shall be determined whenever bioassay results violate effluent limits. Refer to Section II for Testing Procedures.

4. Bioassay sample shall be collected on days coincident with effluent composite sampling. Refer to Section II for testing procedures.

5. The discharger shall specify whether total or hexavalent chromium concentrations are analyzed.

6. A minimum of four grab samples, one every six hours over a 24-hour period, must be used for volatile organic compounds (EPA Method 624), Cyanide and Phenolic Compounds. These samples shall be composited at the laboratory just prior to analysis.

7. Standard observations should enable EPA and Board staff to determine the discharger's compliance with receiving water limitations.

8. See Permit Requirements for special monitoring conditions.

9. See Appendix 1 of California Ocean Plan, 1990, for definition of terms.

10. If a discharger can demonstrate to the satisfaction of the Regional Board (subject to EPA) approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali methal cyanides, and weakly complexed organomethallic cyanide complexes.

11. BOD shall be monitored weekly and COD shall be 5/W.

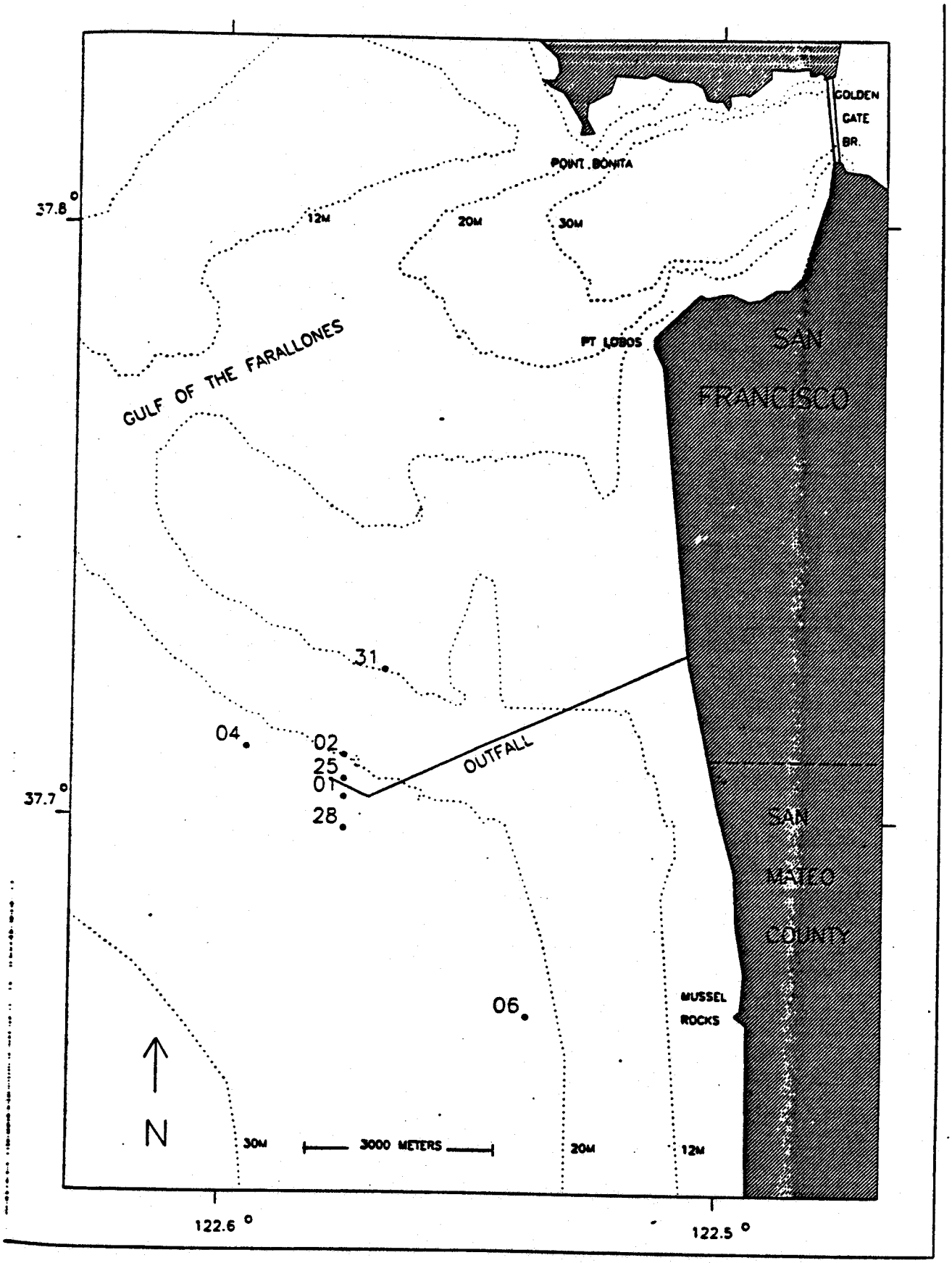

Figure 1
Fixed Benthic Sampling Locations

Figure 2
Randomized Benthic Sampling Locations